



EXAMINING UTILITY ENERGY EFFICIENCY POLICY IN MICHIGAN

*Testimony before the Senate Energy and Technology Committee,
by*

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The American Council for an Energy-Efficient Economy (ACEEE)

- Nonprofit 501(c)(3) dedicated to advancing cost-effective energy efficiency through research, communications, and conferences. Founded in 1980.
- ~40 staff in Washington DC, + field offices in DE, MI, and WI.
- Focus on End-Use Efficiency in Industry, Buildings, Utilities, and Transportation; and State & National Policy
- Funding: Foundations (34%), Federal & State Grants (7%), Contract work (21%) Conferences and Publications (34%), Contributions and Other (4%)

Martin Kushler, Ph.D. (Senior Fellow, ACEEE)

- 30 years conducting research in the utility industry, including:
- 10 years as Director of the ACEEE Utilities Program
- 10 years as the Supervisor of the Evaluation section at the Michigan PSC
- Have assisted over a dozen states with utility EE policies



TOPICS

1. Energy efficiency as a utility system “resource”
2. Michigan’s current energy efficiency policy framework
3. Data on success of that framework
4. Why policy requirements are appropriate, and necessary
5. Data on which EE policies work best
6. Conclusions

APPENDIX: Specific comments on SB 438



FIVE FUNDAMENTAL POINTS TO EMPHASIZE

1. It is well documented, in Michigan and nationally, that ***utility energy efficiency programs are by far the cheapest source of energy supply*** (< 1/3 the cost of new generation)
2. Under traditional regulation, ***utilities don’t want to provide energy efficiency programs***, because it reduces their profits
3. Consequently, 26 states (incl. Michigan) have established “Energy Efficiency Resource Standards” ***requiring*** particular energy savings achievements. ***States with EERS save nearly four times as much as states with no standards.***
4. Conventional wisdom is that ***Michigan is facing a shortage of electric generation*** over the next decade.
5. With Energy Optimization, fewer new power plants will be needed. ***Eliminating EO would raise customer utility costs over the next decade by billions of dollars.***



.... OPPORTUNITY TO SAVE SOME TIME....

If we can stipulate that having utilities provide energy efficiency programs for their customers is a good thing, and produces a very cost-effective resource for the utility system...

...Then we can focus on which policies are most successful at achieving that outcome

[and I can skip through the next 5 slides]



1. ENERGY EFFICIENCY AS A UTILITY SYSTEM RESOURCE

RATIONALE FOR ENERGY EFFICIENCY AS A UTILITY RESOURCE

SIMPLY STATED:

- Utility systems need to have adequate supply resources to meet customer demand
- To keep the system in balance, you can add supply resources, reduce customer demand, or a combination of the two
- In virtually all cases today, it is much cheaper to reduce customer demand than to acquire new supply resources
[We can save electricity for about one-third the cost of producing it through a new power plant]



ENERGY EFFICIENCY IS A REAL, AND RELIABLE, UTILITY SYSTEM RESOURCE

- Over a dozen states (including Michigan) are saving enough energy with their utility programs to displace power plants
 - Xcel Energy in Minnesota has avoided the building of 9 additional power plants with energy efficiency programs over the past two decades
 - Major regional electricity Independent System Operators such as ISO New England and PJM -- the agencies literally responsible for “keeping the lights on” in 19 states -- regularly include energy efficiency programs in their regional electric capacity mix.
- Energy efficiency is a verifiable supply resource



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KEY POINT #1

***It is much cheaper to save energy
than it is to produce it.***

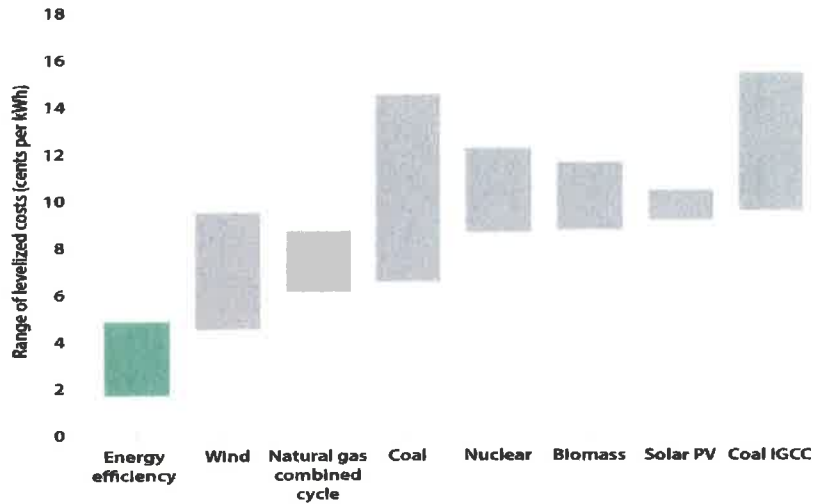
We can save electricity for about one-third the cost of producing it through a new power plant

[Bonus: with no carbon (CO₂) emissions]



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Levelized electricity resource costs



Source: Lazard 2013.

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ACEEE NATIONAL STUDIES ON EE COST-EFFECTIVENESS

In a 2009 ACEEE analysis*, we reviewed the reported results from 14 states with large-scale utility funded energy efficiency programs:

- **The average cost per kWh saved was 2.5 cents**

In a new 2014 ACEEE analysis**, we reviewed the reported results from 20 states:

- **The average cost per kWh saved was 2.8 cents**

* *Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved through Utility-Sector Energy Efficiency Programs*, ACEEE, Sept. 2009 <http://www.aceee.org/research-report/u092>

** *The Best Value for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs*, ACEEE, March 2014 <http://www.aceee.org/research-report/u1402>

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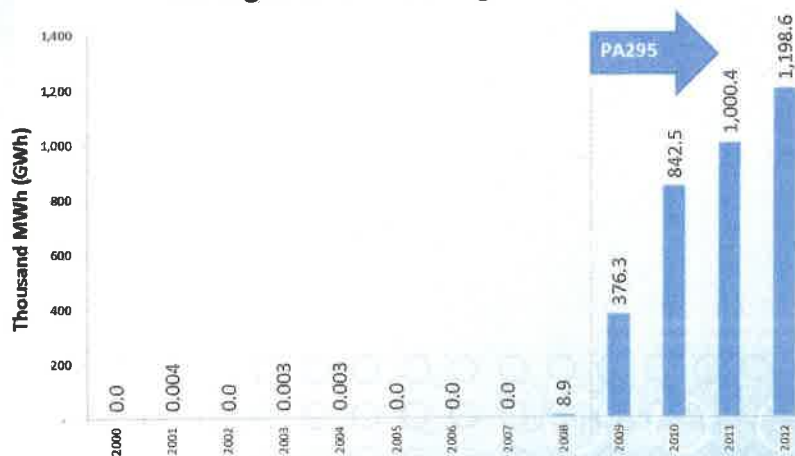
Michigan's "Energy Optimization" Policy Framework

KEY POINT #2:

The reason we have utility energy efficiency programs for customers in Michigan is the "Energy Optimization" requirement and policy framework created in PA 295 of 2008



Michigan Electric Savings from EE



Sources

2000-2007: Form EIA-861

2008: ACEEE Scorecard 2010

2009-2012: MPSC PA295 Annual Reports

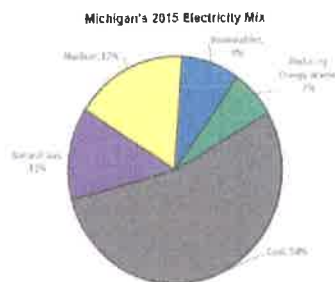
[Graph by MEEA]



ACHIEVING AN "ALL OF THE ABOVE" ELECTRICITY MIX REQUIRES STRONG POLICY

The **only** reason Michigan has begun to develop an "all of the above" electricity supply mix is the fact that PA 295 includes "mandates" for energy efficiency and renewable energy.

Prior to 2008, Michigan utilities were providing **no** customer energy efficiency programs, and virtually no wind or solar resources.



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THE FOUR CORE HISTORIC PROVISIONS OF PA 295 "ENERGY OPTIMIZATION"

1. Requires that Utilities Provide Energy Efficiency Programs for their Customers

Establishes for the first time in Michigan a state policy requirement that utilities, both electric and natural gas, must provide for energy efficiency programs for their customers

2. Establishes Energy Efficiency as a Utility System Resource

Clearly states that the objective of these programs is to "reduce the future costs" of utility service to customers, and "in particular", to delay the need for construction of new electric generating facilities and thereby protect consumers from incurring those costs.

[and includes a requirement that the energy efficiency programs **must be cost-effective**: "...the total avoided supply-side costs to the provider...are greater than the total costs to the provider of administering and delivering the energy optimization program"]

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PROVISIONS OF PA 295 ENERGY OPTIMIZATION (cont.)

- 3. Sets Energy Efficiency Performance Standards** A key component of the legislation [Section 77] **requires electric and natural gas utilities to achieve specific minimum annual energy savings amounts**

For electric utilities

2008/09: 0.3% of 2007 sales

2010: 0.5% of 2009 sales

2011: 0.75% of 2010 sales

2012 and each year thereafter: 1.0% of the prior year's sales

- 4. Provides for Rate Recovery of Program Costs**

Provides for appropriate rate recovery for approved *cost-effective* energy efficiency program costs (incl. reasonable utility incentive)

[Program spending currently capped at 2.0% of total revenues]



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Data on the Success of Energy Optimization

[KEY POINT #3: MICHIGAN'S "EO" POLICY (PA 295) HAS BEEN SPECTACULARLY SUCCESSFUL]

- The utilities have exceeded the EO targets every single year
- The **EO programs have produced cost savings of \$3.75 for every dollar spent on the programs***
- EO is by far the least-cost utility system resource**
 - **Energy efficiency costs 2 cents/kWh....**
 - vs. 13.3 cents/kWh for a new coal plant
 - vs. 6.4 cents/kWh for a new combined cycle gas plant
 - vs. 6.4 cents/kWh average of all power supply costs

* 2014 Report on the Implementation of P.A. 295 Utility Energy Optimization Programs, Michigan Public Service Commission, November 26, 2014.

**Report on the Implementation of the P.A. 295 Renewable Energy Standard and the Cost-Effectiveness of the Energy Standards, MPSC, February 13, 2015.



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Why strong public policy is needed for energy efficiency



KEY POINT #4:

***Utilities do not voluntarily engage in (or fund)
“serious” customer energy efficiency programs***

[“Customer education programs” don’t count
as “serious” energy efficiency]

Why not?

Economics

- Higher energy sales means higher profit (and vice-versa)
- They make money putting capital expenditures into ratebase (e.g., building power plants)

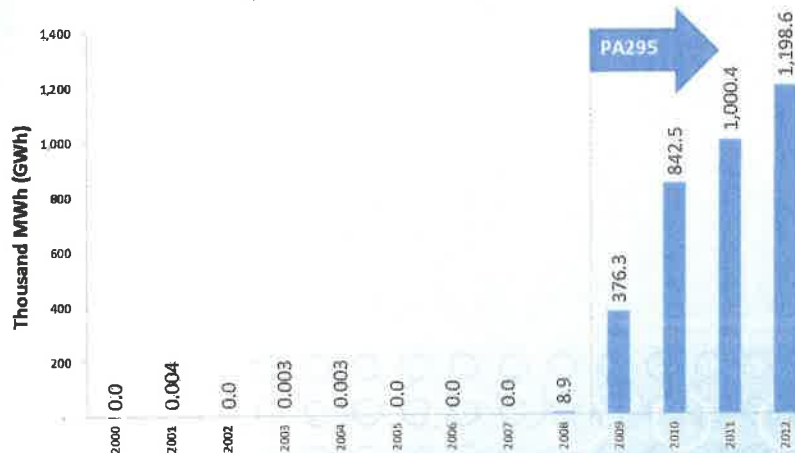
Organizational Traditions

- Institutional focus traditionally on supply side



*This is why over half of the states have established
 “Energy Efficiency Resource Standards” (EERS)
 [like Michigan’s ‘Energy Optimization’ standard]
 requiring utilities to achieve certain minimum levels of
 energy efficiency savings*

Michigan Electric Savings from EE



Sources
 2000-2007: Form EIA-861
 2008: ACEEE Scorecard 2010
 2009-2012: MPSC PA295 Annual Reports
 [Graph by MEEA]

THE "ANTI-MANDATE" ARGUMENT IS MISGUIDED

1. Utilities are not "free-market" entities....they are government-granted monopolies...regulated in the public interest
2. Utilities routinely operate under many "mandates"
 - ✓ System reliability requirements
 - ✓ Pollution standards
 - ✓ Equipment safety standards
 - ✓ Various billing and customer service requirements, etc
3. If the state decides that energy efficiency programs are in the best interests of ratepayers and the state as a whole, it has every right to require that utilities provide them. (half of all states have such requirements)
4. Energy Efficiency Standards work (see next slide)



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KEY POINT #5:

NATIONAL DATA OVERWHELMINGLY SHOW THAT ENERGY EFFICIENCY RESOURCE STANDARDS (EERS)

-- LIKE MICHIGAN'S EO --

ARE EXTREMELY EFFECTIVE

(e.g., produce nearly 4X the savings.... 2013 national data below)

	EE spending as a % of Revenues	EE savings as a % of Sales
States with EERS (n=26)	2.63	1.11
States w/o EERS (n=24)	0.76	0.30
	(p<.001)	(p<.001)



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Now, we face in Michigan a policy push to **replace** our EERS (Energy Optimization) standard with an 'integrated resource planning' (IRP) process.

The national data indicate that this would be a major step backward for energy efficiency in Michigan

**"INTEGRATED RESOURCE PLANNING" (IRP)
IS NOT A SUITABLE *REPLACEMENT* FOR AN
ENERGY EFFICIENCY STANDARD***

	EE spending as a % of Revenues	EE savings as a % of Sales
States with EERS (n=26)	2.63	1.11
States w/o EERS (n=24)	0.76	0.30
	(p<.001)	(p<.001)

States with IRP

but no EERS (n=18)

0.76

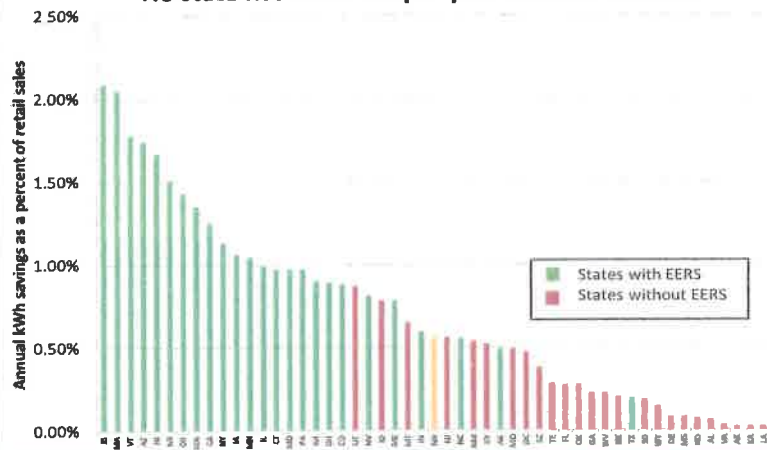
0.34

...save less than a third of states with an EERS

ENERGY SAVINGS FOR STATES WITH AN EERS VS. STATES WITHOUT EERS

[EE savings as a % of retail sales (2013)]

**The top 19 states in EE savings all have EERS
No state has saved 1% per year without an EERS**



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ADDING A UTILITY INCENTIVE POLICY TO AN IRP POLICY DOES NOT SOLVE THE PROBLEM

	EE spending as % of revenues	EE savings as % of sales
States w/ IRP but no EERS (n=18)	0.76	0.34
States w/ IRP & incentives but no EERS (n=8)	0.71	0.34
<hr/>		
States with EERS (n=26)	2.63	1.11
Michigan	2.00	1.30

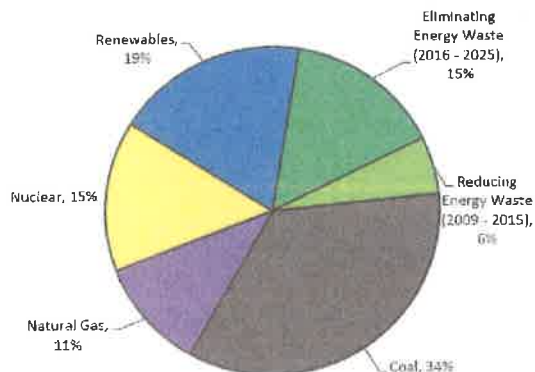
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THREE ADDITIONAL REASONS TO SUPPORT A STRONG ENERGY OPTIMIZATION STANDARD

1. Governor Snyder's energy resource goals
2. The U.S. EPA Clean Power Plan requirements
3. Michigan public opinion

GOVERNOR SNYDER'S ENERGY RESOURCE GOALS (15% Additional Energy Efficiency by 2025.... 1.5% per year)

Michigan's Potential 2025 Electricity Mix
(natural gas more expensive than renewables per kWh)



POLICY OPTIONS FOR MEETING GOV. SNYDER'S GOAL

Annual
EE savings as
% of sales

Governor Snyder's energy efficiency goal: 1.5% (15% over 10 yrs)

States with EERS savings standards (n=26)	1.1%
States with IRP but no EERS (n=18)	0.34%
Michigan with current EO policy	1.3%
Top 5 EERS states	1.87%

- Eliminating Michigan's EO standard and switching to IRP essentially eliminates any likelihood of achieving the Governor's goal of 15% energy efficiency savings by 2025.
- By far the best approach for meeting the Governor's goal would be to strengthen the EO standard.

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KEY CONSIDERATIONS REGARDING THE EPA CLEAN POWER PLAN (CPP)

1. The existing Energy Optimization (EO) policy provides billions of dollars of net benefits to Michigan ratepayers.... even in the absence of any federal CPP requirements. **Keeping the EO policy is a completely "no regrets" strategy.**
2. If the CPP does take effect, having the EO policy and structure in place will provide great additional benefits, as energy efficiency is the cheapest compliance option available
3. The existing EO policy in Michigan meets very well the EPA's announced requirement that state measures be "*quantifiable, non-duplicative, permanent, verifiable and enforceable*".
Simply having an IRP policy does not meet those requirements!

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PRIMARY RECOMMENDATIONS REGARDING CPP

- If you believe Michigan should develop its own energy policy, and not be “dictated to” by Washington, D.C., then **Energy Optimization is an ideal “Michigan First” policy**
- The EO savings standard brings tremendous economic benefits to Michigan. Keeping Michigan’s Energy Optimization policy in place is a smart strategy....even if CPP disappears tomorrow.
- But **Energy Optimization is also a smart insurance policy against federal regulation.** If CPP does become accepted law, Michigan will be in a much better position to achieve compliance, and reduce the costs of compliance, if it has maintained the existing Energy Optimization policy and structure.



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MICHIGAN VOTERS ARE EXTREMELY SUPPORTIVE OF THE ENERGY OPTIMIZATION POLICY AND PROGRAMS*

77% support the current EO programs, including the fees they pay to support them

90% support an **expansion** of the EO programs (including 85% of Republicans)

73% believe that EO programs will help reduce long-term energy costs for everyone

When asked to choose between a strict standard versus allowing utilities flexibility to meet clean energy goals:

62% say hold utilities accountable for meeting a standard, vs. 33% who say allow utilities to decide how and when to meet a clean energy goal

* Poll for the Christian Coalition of Michigan by Public Opinion Strategies,

March 2015



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CONCLUSIONS

1. **Maintaining a strong Energy Optimization policy will:**
 - Save Michigan ratepayers billions of dollars
 - Put Michigan in a better position to comply with a CPP
 - Make it at least plausible to meet Governor Snyder's announced goal for 'energy waste reduction'
2. **There is no data-based justification for eliminating the well-proven EO standard and replacing it with an unproven IRP approach**
3. **If you want to experiment with an unproven IRP approach, make it an additional policy that is used to examine whether the core annual EO savings requirements should be supplemented in any given time period. (i.e., an EO plus IRP approach)**

APPENDIX

The attached pages contain specific comments on SB 438.

ACEEE COMMENTS ON SB 438, AS INTRODUCED
[by Martin Kushler, Ph.D. August 26, 2015]

Sec. 3, (H) (p. 5): The definition of “clean energy resource” “CLEAN ENERGY RESOURCE” MEANS AN ELECTRIC GENERATION TECHNOLOGY THAT MEETS ALL CURRENT STATE AND FEDERAL AIR EMISSIONS REGULATIONS OR” should be regarded as unacceptable, for two reasons in particular:

1. It is defined such that *any* electric generating plant that meets current minimum existing environmental standards would be classified as “clean energy”. **Any power plant using coal, gas, oil, or any other fuel that meets minimum existing environmental standards would qualify.** By de facto classifying *everything* as “clean”, it distinguishes nothing. So what is the point?
2. The definition **does not include any consideration of demand-side resources, such as energy efficiency or load management.** Thus demand-side resources would be excluded from any consideration as a “clean energy resource”.

If this is somehow envisioned as enabling a “clean energy standard” at some point to take the place of a renewable energy standard, it will be roundly criticized as completely inadequate.

Sec. 71 (3) (p. 27): re: the “overall goal” of an “Energy Waste Reduction Plan”. Should add something to the definition to reflect the Governor’s desire to reduce energy waste. For example, it could add the words shown in italicized CAPS below to the first sentence of the goal statement.

“The overall goal of an energy optimization WASTE REDUCTION plan shall be to **HELP UTILITY CUSTOMERS REDUCE ENERGY WASTE AND TO** reduce the future costs of provider service to customers.”

Similar language should be added to Section 72 (2) (p. 30), regarding the ongoing natural gas energy waste reduction plan.

Sec. 71 (8) (p. 29) The **blanket repeal of all of Sec. 71 as of 1/1/19 has many very undesirable effects.** These include (for all electric utilities):

- The **elimination of the goals** “reduce the future costs of provider service to customers” and “delay the need for constructing new electric generating facilities and thereby protect consumers from incurring the costs of such construction”. These are **critically important public policy goals** and should not be eliminated.
- The **elimination of important provisions** regarding utility energy efficiency programs, including:
 - Requirements to serve all classes of customers
 - Requirement to have energy efficiency programs for low-income customers
 - Requirements for cost-effectiveness, and for independent evaluation of energy efficiency programs in order for utilities to qualify for earning performance incentives
- The **complete elimination of any requirements for energy efficiency for co-ops and municipal utilities.** Because these entities are not regulated by the MPSC, they are not covered in the companion bill requirements regarding IRP, and thus “slip through the cracks” in terms of any energy efficiency requirements or provisions.

Sec. 71 of PA 295 contains many very important public policy goals and provisions to ensure fair and effective implementation of energy efficiency programs by utilities. Eliminating these items is entirely contrary to the Governor's call for energy waste reduction as a top state priority. **ACEEE opposes the repeal of those items from Sec. 71.**

Sec. 74 (5) (p. 35): contains the following provision:

BY 270 DAYS AFTER THE EFFECTIVE DATE OF THE 2015 AMENDATORY ACT THAT ADDED THIS SECTION, AN ELECTRIC PROVIDER SHALL FILE WITH THE COMMISSION A PROPOSED PLAN AMENDMENT UNDER SUBSECTION (3) OR (4) TO REFLECT THE PHASEOUT OF THE ENERGY WASTE REDUCTION STANDARD UNDER SECTION 77.

Since the proposed legislation continues the energy waste reduction programs, and the associated savings standard, through 2018, there is **no need for a "phaseout" to be initiated this early.** Having such a proceeding will only serve to create doubt and uncertainty amongst customers, and participating contractors, retailers, and other participating "trade allies" that help deliver the energy efficiency programs. This provision is unnecessary, and will have an adverse effect on customer participation and trade ally cooperation.

Sec. 75 (1) (p. 36): **increases the maximum allowable "incentive" to the utility to 20% of the amount spent on the energy efficiency programs. There is no justification for this if there is no increase in performance required of the utilities. ACEEE opposes any increase in the utility incentive unless the utility energy savings performance standard is increased above 1.0% per year.**

Sec. 77 (1) (p. 37): the annual **energy savings standard stays frozen at 1% per year.** The energy efficiency potential study conducted for the MPSC made clear that higher levels of annual savings were achievable and cost-effective. Leading states and utilities are already saving 2% per year or more. **ACEEE proposes a gradual increase of the energy savings standard in 0.25% increments, to a level of 2% per year, and then continuing at that level.**

Sec. 77 (7) (p. 40): **ACEEE strongly opposes the repeal of the annual energy savings standards included in Section 77 of PA 295.** Eliminating these modest annual energy savings standards makes a mockery of the Governor's call for making the 'elimination of energy waste' a top policy priority. It will also make it virtually impossible to achieve the goal of 15% savings by 2025 that he outlined in his policy speech earlier this year. There is nothing in the companion bill S. 437 to suggest that the IRP requirement described there would in any way replace the documented energy savings from PA 295.

Sec. 78 (1-3) (p. 41-42): Creates ability for a **natural gas provider to petition for and receive a lower energy savings standard**, upon claiming that they cannot cost-effectively meet the standard. **Any such request should be subject to a contested case proceeding**, where the burden of proof is on the utility to demonstrate that the standard cannot be met.

Sec. 89 (3) (p. 46): The bill retains the current **caps on spending** for energy efficiency programs. This subject was discussed in the Work Group, and there was fairly widespread agreement that utility spending on the cheapest source of energy supply should not be artificially restricted, when there is no restriction at

all on spending on any other energy supply source. **ACEEE strongly requests that the spending caps on energy efficiency spending be eliminated.** There are other provisions in legislation that require the spending to be cost-effective, so ratepayers are adequately protected from imprudent spending. Ratepayers are actually harmed by artificially limiting the lowest-cost resource, because higher-cost resources must be purchased instead.

Sec. 89 (9) (p. 48): **Section 89 of PA 295 is critically important**, because it clearly spells out Commission **authority to allow utilities cost-recovery for energy efficiency programs.** This has been an issue of some uncertainty over the years, and has helped restrict and inhibit energy efficiency efforts in the past. Section 89 should not be blanket repealed. The clear authorization for utilities to recover the costs of approved energy efficiency programs should be maintained.

Sec. 91 (1) (p. 51): **Slashes the amount of funding to be provided to the independent program administrator by electric utilities** choosing that administrative option from 2% of revenues per year to 1% of revenues for 2017 and 2018. There is absolutely no justification for this 50% cut in energy efficiency effort. The MPSC evaluation of the independent administrator EE programs shows they are clearly cost-effective, at the current 2% level. This slashing of funding would deprive customers of millions of dollars of energy cost reduction benefits. The option of having an independent administrator is provided as a benefit to utilities that do not want to bother to administrate their own EE programs. It should not be viewed as an easy way to reduce the amount of their spending on EE programs. **The annual funding level for the independent administrator option should be maintained at 2% of revenues per year....if not increased!**

Sec. 95 (3) (p. 61): The existing Section 95 of PA 295 contains some **important broad public policy goals** for the MPSC. Specifically:

“The commission shall do all of the following:

- (a) Promote energy efficiency and energy conservation.
- (b) Actively pursue increasing public awareness of energy conservation and energy efficiency.
- (c) Actively engage in energy conservation and energy efficiency efforts with providers.
- (d) Engage in regional efforts to reduce demand for energy through energy conservation and energy efficiency. “

There are no onerous requirements here, nor any direct cost ramifications. It is just a broad indication of the public interest. **Yet the proposed bill strikes all of this language. It's hard to interpret this as anything other than a deliberate hostile swipe at the concept of energy efficiency...** especially since the preceding page retains nearly identical language calling upon the commission to promote load management.

In addition, this type of gesture is entirely at odds with the Governor's call for reducing energy waste as the top energy priority in Michigan.

Having this type of change in the bill makes it very easy for critics to call this bill a deliberate attack on energy efficiency. **ACEEE strongly recommends that the original language above from Sec. 95 of PA 295 be retained.**